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Substitute Financial Transfers
for Time Transfers?*

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**Resource transfers to the elderly:
Do adult children substitute financial transfers for time transfers?**

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Abstract

Using the Health and Retirement Study, this research investigates whether an adult child substitutes financial transfers to an elderly parent for time transfers as the cost of his or her time increases. I develop and estimate a model of the effect of a child's wage rate on time and money transferred to an elderly parent. I calculate a wage elasticity and study how this varies with the existence of substitutes such as siblings and a spouse, and how this varies by sex of the child. The results show that an adult child will substitute money for time. Furthermore, I find that for a male child, a spouse is a substitute helper for elderly parents and that for a female child a spouse is a complementary helper while siblings serve as substitutes.

1. INTRODUCTION

The allocation of resources to elderly parents is the subject of both theoretical and empirical literature in economics, sociology, and demography. Understanding this behavior is important for several reasons. In the United States, population aging has generated concern for the welfare of a growing elderly population. If transfers from family members are economically important, measurement of the well-being of the population should take into account these transfers. Moreover, an elderly parent may receive either financial or time transfers and the type may depend on the characteristics of the recipient parent and the adult donor child. For example, an adult child with a high opportunity cost of time may choose to spend time helping a parent or may instead transfer money to a parent for the purchase of home health care. Finally, private transfer motives have potential consequences for the effectiveness of government redistribution policies. For example, public resource transfers to the elderly through programs such as Social Security and Medicare may displace the financial and time transfers of family members.

This study investigates whether an adult child substitutes financial transfers to an elderly parent for time transfers as the cost of his or her time increases. Using the Health and Retirement Study (HRS) I estimate the effect of a child's wage on transfers, exploiting the richness of the data on HRS respondents (adult children) and the availability of information on their elderly parents and siblings. I examine how the effect of wage rates on transfers varies with the availability of substitutes; namely spouses and siblings. Of the studies on a child's transfers to elderly parents, I know of no study that specifically estimates the effect of a child's wage on his or her own transfers of time and money to elderly parents. Thus, the results of this research help fill in this important gap in the literature. This research will advance our understanding of family support for the elderly in a society with an increasing growth in female labor force participation and wage rates and lower fertility rates. These demographic trends may imply a decline in family assistance or a shift toward financial transfers.

The following section briefly discusses several models of private transfers and their predictions with respect to the potential for public transfers to displace private transfers. I focus primarily on a model of altruism that incorporates both financial and time transfers. I first describe transfers of money and time by an adult child to elderly parents and how they vary with sex of the child and the number of siblings of the adult child. I establish that both the incidence

and amount of money transfers and time transfers of care hours and chore hours are substantial. Indeed, 34% of elderly parents are receiving some type of transfer from the respondent child (or spouse). Fifty four percent receive from one of their children (Zissimopoulos, 2000). Typically the flows occur in one direction, to elderly parents. In fact, I find that 4% of children in the sample report receiving financial transfers from parents and only 2% receive money from and give time to parents. These flows provide little, if any, evidence in support of the basic exchange model of Cox (1987) or Bernheim, Shleifer and Summers (1985).² I then develop and estimate a model of the effect of a child's opportunity cost of time on time or money transferred to an elderly parent. If there exists market substitutes for time transferred by a child, then a child may choose to substitute money for time transfers. Indeed, the data suggest this may be the case. I also examine the cross-wage elasticity of a spouse and how the effect of a child's wage rate on transfers varies for children by if a child has siblings. I find that siblings and spouses may serve as a substitute for a child's transfers, although it varies by the sex of the child.

2. BACKGROUND

Today, there are approximately 35 million Americans over the age of 65, accounting for 13 percent of the U.S. population. The U.S. Census Bureau (2000) predicts that by 2050, 20 percent of Americans will be over the age of 65. While Medicare, supplemented by a Medigap policy, can insure a large proportion of medical expenses for the elderly, it covers a limited number of days in long-term care. Furthermore, Murtaugh et al. (1997) find that less than 8 percent of the elderly population owns an individual long-term care policy. Concurrent with population aging has been a shift away from the elderly co-residing with children. Indeed, between 1950 and 1990, the share of elderly widows who co-resided with their adult children fell from 50% to 20% (McGarry and Schoeni, 2000). Daughters are cited as central to the care received by parents (Spitze and Logan, 1990). Increases in female labor force participation and wage rates, however, may negatively impact the amount of care a daughter provides an elderly parent. Moreover, lower fertility rates imply a decrease in the number of potential caregivers. While these demographic trends may imply a decline in familial assistance, it may also suggest

² This does not rule out intertemporal exchange. For example, children give to parents in exchange for past services and or financial support.

changes in the composition of assistance the elderly receive. For example, children of both genders may assist parents with services or through transfers of money that help to pay for home health care. An empirical examination of an adult child's transfer behavior implies thinking about the motive, the family members involved, and types of transfers. Although this study will focus on the latter two issues, a summary of the first is in order.

This discussion of transfer motives focuses on the two most frequently cited models: altruism and exchange. Altruistic children transfer time and money to their parents because they care about their welfare (Barro, 1974; Becker, 1974). With an exchange motive, children provide time to elderly parents in exchange for money from them or in anticipation of future bequests (Cox, 1987; Bernheim et al., 1985). These models are tested by estimating the effect of a recipient's income on the amount of money transferred and by testing the derivative restriction resulting from a model of altruism. This restriction implies that a decrease in a recipient's income by \$1 and an increase in a donor's income by \$1 will increase transfers to a recipient by \$1. Some empirical studies of resource transfers to elderly parents using data from the United States have found a negative income effect, consistent with altruism, but have also found results inconsistent with the derivative restriction (Stern, 1995; McGarry and Schoeni, 1995; Schoeni, 1997; McGarry, 1998; Pezzin and Schone, 1997; Altonji et al., 1997).³ In contrast, Cox (1987) and Cox and Rank (1992) find a positive income effect, consistent with exchange. In an exchange model, the effect of a child's income on transfers from parents is ambiguous and depends on the elasticity of supply and demand for the child's services (Cox, 1987). The estimates of this study should be able to shed some light on these elasticities.

Despite the interesting theoretical work that has been done on both the exchange and altruism motives, the existing literature provides no consensus about whether one of these motives dominates. The potential impact of public transfers on private transfers depends on the nature of private intergenerational relations. As implied by the derivative restriction, altruism leads to the prediction that private intergenerational transfers could neutralize transfers associated with government policies while the exchange model predicts less than a one-to-one crowding out. The impact also depends on a family member's willingness to substitute time for financial transfers. For example, public policy proposals to expand the availability and

³ Some studies have tested models of transfer behavior outside of the U.S. including Cox, Eser, Jimenez, 1998; Cox and Jimenez, 1997; Willis and Lillard, 1997.

affordability of home health care, as an alternative to more expensive nursing home care may not displace family assistance if market-purchased care is not a good substitute for care by a child. The existing literature provides little insight into this trade-off. First, studies have generally focused on time assistance, paying little attention to the interaction between financial and time transfers (Kotlikoff and Morris, 1990; Pezzin and Schone 1997, 1999; Hiedemann and Stern, 1999). An exception is McGarry and Schoeni (1995), who use the HRS, and find that a donor child's household income and wealth are positively correlated with financial transfers and are uncorrelated with time transfers. Other empirical studies on time and financial transfers to parents focus on a younger cohort of parents and children where the percentage of parents that need and receive help from children is much lower and the percentage of children receiving transfers from parents is much higher than in older cohorts (Cox and Rank, 1992; Altonji et al., 1997). None of the above studies estimate the effect of wages on either time or financial transfers. Couch et al. (1999) analyzes the effect of wages on transfers to parents, labor supply and housework. The authors use the PSID, a much younger sample than the HRS, and less than 4% of parents are receiving financial transfers. They find that transfers of time respond negatively to the wage rates of men and unmarried women (but not married women) and money transfers respond positively to an increase in wages. Their results cannot be interpreted as the effect of an individual's opportunity cost of time on his or her transfers to parents because they use total time and money from husbands and wives transferred to any parent (or in-law). Our study addresses these limitations.

A few studies recognize the possibility that siblings affect a child's transfer decisions. No studies, however, have examined how the availability of substitutes impacts the effect of a child's wages on the choice of financial or time transfers. Several studies, assuming a non-cooperative Nash model of sibling behavior, examine the effect of a sibling's transfers on a child's transfers and generally find a child's transfers are reduced in response to a sibling's transfers (Wolf et al., 1997; Neuhauser and Stern, 2000; Pezzin and Schone, 2001).

3. FRAMEWORK AND DATA

This section presents the conceptual framework underlying the empirical work. The model consists of an adult child and an elderly parent although the empirical work incorporates

siblings and spouses. I describe the data, focusing on the variables of interest and discuss some descriptive statistics.

3.1. Conceptual Framework. The framework that will guide our analysis can be illustrated with a simple model that consists of an adult child and his or her elderly parent. The child decides how to allocate a household's scarce resources, namely time and money, to an elderly parent. To model this decision, I assume that an adult child cares about the welfare of her parent and household consumption. For conceptual simplicity, I assume that for married couples, one adult works full time with no labor supply decision, although I relax this restriction in the empirical work. An elderly parent's utility is a function of consumption and services received. The child's household maximizes the following utility function:

$$\begin{aligned} \max_{C,D,S} U &= U(X_C, V(X_p, N), \theta) \\ \text{s.t. (i)} X_C &= wH + A - D; \text{(ii)} X_p = I + D - pS; \text{(iii)} 1 = H + C \end{aligned}$$

X_C is the consumption of the child's household, V is the parent's level of welfare, X_p is the elderly parent's consumption, N is total time a parent receives, and θ is a taste parameter reflecting how much the parent needs time and money. The functions U and V are concave functions with strictly positive first partial derivatives and negative second partial derivatives. Both parent and adult child consumption is a normal good. The wage rate is given by w , H is hours of work and other household income is A . Money and time transferred are D and C , respectively. S is the amount of services bought in the market with price, p ; thus, N , the total amount of time a parent receives, is equal to $C+S$. I is a parent's income. For interior solutions, time transfers are chosen to set the marginal utility of consumption of the child's household equal to the parent's marginal utility of consumption plus the parent's marginal utility of services from the child's perspective multiplied by the ratio of the price of service and the child's wage rate. Financial transfers are chosen to equate the marginal utility of consumption of child and parent. As an outcome of the optimization program, I obtain D, C, S, H as a function of wage rates, other income, price of services in the market, parent's income, and the taste parameter. I focus on the effect of wages, w , on D and C , transfers of dollars and time to parents:

$$D = D(w, p, A, I, \theta); C = C(w, p, A, I, \theta).$$

3.2. Data. When appropriately weighted, the HRS is a nationally representative panel survey of the non-institutional population born between January 1, 1931 and December 31, 1941 and their spouses or partners.⁴ The baseline interviews were completed in 1992. Although five survey waves have been completed, the family data is publicly available only for the first two waves. I use the second wave, conducted in 1994, because in the first survey wave only hours given to parent for eating, bathing, and dressing care are reported and few parents receive this type of time transfer as shown in Table 1 and Table 2. In the 1994 wave, another type of time assistance is reported: hours above 50 annual hours provided to parents for help with household chores. This type of time is more likely to be provided by both male and female children than hours for personal care (Table 3). Moreover, the survey asks respondent children about financial assistance given to and received from parents above \$100 in the past year. The survey also collects detailed information on the respondent child's and his or her spouse's income, wealth, and its sources, as well as information on their labor supply. I use this information to calculate a wage rate. Non-response on income and wealth measures is minimized because of a bracketing sequence in the survey, and missing variables will be imputed.⁵ The survey collects information on the family members of the respondent child and his or her spouse including parents and parents-in-law, as well as the siblings of the respondent and spouse.

I estimate a wage rate for the HRS respondents or spouses who did not have a paid job at the time of the survey. For 35% of males and 42% of females in HRS 1994, a wage rate is not available although these numbers reduce to 20% and 29% respectively if wage rates from surrounding waves are used. There are many approaches for predicting wages when one is not observed although none is without limitations. I follow the standard procedure of constructing a wage equation based on the HRS respondents for which I observe the wage rate and estimating the model by sex. Human capital models suggest age and education are important determinants of wages. I use age, years of schooling, if the respondent has a college degree, race, an indicator

⁴ The HRS over-sample blacks, Hispanics and residents of Florida.

⁵ I use an imputation method developed at RAND. Details of the methodology may be requested from the author.

for whether the respondent was born in the U.S., number of children, and parent and parent-in-law education to model wage rates by sex of the respondent.⁶

3.3. Descriptive Analysis. The empirical investigation restricts the analysis to married couples with at least one parent alive and not co-residing with the child.⁷ In the 1994 wave the number of parent households is 3690.⁸ The goal of the descriptive analysis is, first, to quantify the percentage of parents receiving transfers in the HRS and the amount of transfers a parent receives; this is done to establish their empirical importance. A second goal is to describe how time and money transfers vary by an adult child's wage rate and by the number of a child's siblings.

Table 1 shows the distribution of transfers to parents by type of transfer. Thirty-four percent of parents are receiving transfers from the respondent child and spouse. Most of these parents are receiving one type of transfers, money or time. Only about 5% of parents receive both money and time transfers; primarily money and chore transfers. Corner solutions in money and time may suggest a high degree of substitution between the two goods. Alternatively, it may reflect the preference of either the giver or receiver.

The results displayed in Table 2 demonstrate that financial and time transfers from children are an important source of support. Fifteen percent of parents receive financial transfers, 5.4% receive hours for personal care and 23% receive hours for household chores from the respondent child. Table 2 shows that conditional on receiving, a parent receives \$1,259 annually from one child. According to the 1996 Medicare Beneficiary Survey, this amount accounts for 40 percent of total out-of-pocket health expenditures and 50 percent of home health care expenditures among those individuals who had expenditures.⁹ A parent who is receiving transfers, and who has multiple children, is likely to receive transfers from multiple children and receives over \$3,300 from all children (Zissimopoulos, 2000). Children transfer time in amounts

⁶ The R-squared from the wage regressions for male and female respondents are .22 and .20 respectively.

⁷ It is unclear how to measure transfers within a household. The survey does include a question that differentiates between if the co-residency should be considered a transfer to the parent or from the parent. For example, an elderly parent may live with their child because they need financial assistance or care or may live with a child to care for the grandchildren. In-kind transfers however, would need to be assigned a dollar value if they were to be comparable with transfers to parent that do not co-reside. Without geographical information, imputing values would be difficult.

⁸ In 1994, 61% of parent households consist of a female parent with no spouse, 17% have only a male parent alive and 22% of parent households consist of a female and male parent

⁹ The author thanks Hong Kan for providing these calculations using the 1996 MCBS.

that are large enough to be substituting for nursing home or home health care (Table 2). Table 3 shows the probability a parent receives a time transfer and the amount, conditional on a transfer being made, by the sex of the child. Although few male children are transferring hours to a parent for help with personal care, 20% are transferring time for help with household chores. Overall, males transfer fewer hours than females. Given that males in this sample have a higher wage rate than females, this pattern is consistent with a hypothesis that time decreases as the opportunity cost of time increases.

Characteristics of elderly parents and the respondent child are given in Table 4 for the full sample and by type of transfer. Parents who receive transfers are more likely to need transfers. For example, parents who receive care are on average two years older (83 years old) than the mean parent (age 81) and more likely to need care. Parents who receive money are more likely to need care than parents on average. The cost of providing time to parents may be greater for children who live far from parents than those who live close and thus they may substitute financial transfer for time transfers. Indeed, parents who receive money are less likely to live within 10 miles of the child (22%) than the average (37%) and parents who receive time, either care and chore hours are more likely to live nearby the respondent child (57%, 58% respectively). Parents who receive money are more likely to have a poor financial situation than those who receive other types of transfers or no transfers.

The type of transfer made to a parent appears to reflect the resources of the adult child. Children who give money to parents have higher incomes than those that give time, particularly hours for help with personal care (Table 4). Children that help parents with chores have higher incomes, wealth and more education than children who help parents with personal care. Table 5 examines the relationship between an adult child's wage rate quartile and the amount of financial and time transfers he or she makes. If a child were willing to substitute between money and time, I would expect adult children with high wage rates to transfer less time and more money than low wage children due to their difference in opportunity cost of time. The data in Table 5 do suggest a correlation between wage rate and transfers. Indeed, a child in the lowest wage rate quartile provides fewer dollars and more hours than households in the highest wage rate quartiles.

The effect of a child's wage rate on transfers to parents may vary with the availability of substitutes. Market purchased care for parents is one potential substitute for a child's own care,

and a child's siblings are another. In fact, a sibling may be a closer substitute for time help by another child than market purchased parental help. Moreover, one sibling's financial transfers should be a perfect substitute for another sibling's financial transfers. Tables 6 and 7 examine time and money transferred to parents by the number of siblings of an adult child. The information on time transfers by siblings does not differentiate between care hours and chore hours thus time by the respondent child is the sum of care hours and chore hours. If a sibling's transfers to parents substitute for a child's own transfers then I expect that as the number of siblings increase, a child's own transfers should decrease. The tables show that as the number of children in a family increases, so does the number of children who provide transfers and the amount an individual adult child transfers decreases. Confounding the interpretation of the effect of sibling numbers on transfers is variation in the respondent child's household income and wealth by family size. Indeed, Table 8 shows that children from large families have lower wealth and income than only-children or children with one sibling. In the econometric analysis I hold these factors constant and estimate the effect of child's wage on transfers to parents for children with siblings and those without siblings. I expect the availability of substitute to affect the wage elasticity.

It may be the case that labor supply is simultaneously determined with transfers. In fact, a child may chose to work fewer hours and transfers time or work more hours and transfer money although labor market rigidities may restrict the labor supply choice to participate or leave the labor force completely. Table 9 examines the amount of hours and dollars a parent receives by the labor force participation of the adult child. The results suggest that the hours and dollars a parent receives from the child are invariant to his or her labor force participation. Previous work on the simultaneity of care to parents and labor supply decisions has failed to reach a consensus about whether these activities are simultaneously decided.¹⁰ The empirical analysis proceeds under the assumption that the labor supply of the child is exogenously given and the child divides the remaining time between time spent with parents and leisure.

4. ECONOMETRIC ANALYSIS

¹⁰ For example, Stern (1995) and Ettner (1995) find that providing care to parents reduces a woman's employment while Wolf and Soldo (1994) and Couch et al. (1999) find no effect.

The aim of this research is to estimate the effect of an adult child's opportunity cost of time on money and time transferred to elderly parents. To identify the wage effect I use a rich set of control variables. Estimation of wage effects by number of siblings, and regression analysis that includes a spouse's wage rate begin to address the question of whether these individual are substitutes for a child's own time.

The multivariate regression specification is based on the conceptual framework. Using the HRS, I estimate the financial and time transfers received by parents from child i :

$$(1) \ln(Y_i) = \ln(w_i^c)\beta_1 + \ln(A_i)\beta_2 + X_i\beta_3 + Z_i\beta_4 + \varepsilon_i$$

I use a Tobit model for amount of transfer that takes into account the censoring of the dependent variable reported as either log annual financial transfers or log annual hours. A child's wage rate is w^c , A is other household income; both enter the model as the log of the amount. The model includes controls for other child characteristics X , such as household wealth, age, education, number of children, and number of siblings. Parent characteristics, Z , include proxies for parent income and health such as age, sex, widow status, education, an indicator for whether a parent needs help with eating, bathing and dressing care and an indicator for a parent's financial status ranging from excellent to poor. It also includes an indicator for whether a parent lives within ten miles of the respondent child. Time transfers of any kind from parents are not reported. Thus the measure of time transfers is a gross measure and is the sum of time spent helping a parent with eating, bathing and dressing care and helping with chores. In contrast, financial transfers from parents, although uncommon, are recorded and thus financial transfers are recorded as net transfers. Implicit in the estimation of this model is the assumption that the omitted variables, namely the market price for services and parent income, are orthogonal to the included variables of interest.

Table 10 reports results from a Tobit regression. The first column reports Tobit coefficients for the regression of log annual financial transfers and the third column reports coefficients for log annual time transfers. The main covariates of interest are the child's wage rate and other household income. When considering the estimated coefficients, it is important to keep in mind that the coefficient of log wages on log transfers is not the marginal effect, which in this case would be the wage elasticity. To obtain the wage elasticity, I multiply the

coefficients times the probability of a positive transfer, given the covariates evaluated at their mean, and report these in Table 10. This predicted probability of a transfer is also shown. The results in Table 10 show that as the wage rate of a child rises, the adult child transfers a greater amount of money and fewer hours of time. This suggests that indeed, a child may substitute financial transfers for time transfers as his or her wage rate increases. The elasticity estimates suggest both time and money are inelastic goods. A 1% increase in the wage rate increases financial transfers by 0.04% and decreases time transfers by 0.05%. Consistent with the hypothesis that both money and time transfers to parents are not inferior goods, the effect of income on both types of transfers is positive.

I also include in the empirical specification an indicator for whether the child lives within ten miles of the parent, which is a measure of other types of time cost such as transportation costs. I expect that children who live far from a parent may choose to substitute financial transfers for time transfers. It may be the case that children who prefer to give transfers prefer to live near parents. A few studies on transfer behavior have examined and rejected the assertion that distance is an endogenous variable (Stern, 1994; Behrman and Rosenzweig, 2001). The results in Table 10 show that a parent that lives within ten miles of the respondent child is less likely to get financial transfers and more likely to get time transfers than a parent that lives farther than ten miles.

Tables 11 and 12 display the results of the transfer regressions by sex of the child. A persistent finding in the literature is the tendency for daughters to transfer more services to parents than sons. Indeed the descriptive statistics presented early showed that female children transferred more time than male children. This may simply be a reflection of a difference in the opportunity cost of time of female and male children. Gender, however, may reflect productivity differences, preferences, or social norms. Furthermore, the effect of the wage rate on transfers may vary with the availability of substitutes such as a spouse. I also include the wage rate of a spouse in the regressions and calculate a cross-wage elasticity for time transfers, the sign of which may provide insight into the availability of substitutes. While a spouse may be one source of substitutes for a child's time, another source is a child's siblings. I interact a child's wage with an indicator of whether the child has a sibling. I use variation across children with siblings and without siblings to explore if children with siblings reduce the transfer of hours to parents as their opportunity cost of time increases by a greater amount than children without siblings.

Table 11 shows the regression results of a male child's transfers of money and time to parents. The sign of the effect of a male child's wage rate on financial transfers to parents is positive although not significantly different from zero. An increase in his spouse's wages increases financial transfers to his parents. A 1.0 % increase in a wife's wage rate increases financial transfers to her husband's parents by 0.07%. The effect of wages does not vary by if he has a sibling. An increase in a male child's wage rate decreases his time transfers to parents although the effect is not statistically different from zero. His spouse's wage rate, in contrast, has a positive effect suggesting that a husband's and a wife's time to his parents are substitute goods. A male child with a sibling transfers less time to his parents than a male child without a sibling. Surprisingly, the effect of a child's wage rate on his time transfers to parents for those who have a sibling is positive.¹¹ Similar to the findings in Table 10, a parent that lives within ten miles of the respondent child receives fewer financial transfers and a greater amount of time transfers than a parent that lives farther than ten miles.

Table 12 shows the regression results of a female child's transfers of money and time to her parents. Similar to the findings for a male child, the wages of a female child and that of her spouse have a positive but not statistically different than zero effect of financial transfers to her parents. The results also suggest that, in contrast to the results for a male child, a husband's time may be complementary to a wife's time. The effect of a spouse's wage rate on a female child's transfers to her parents is negative, although not significantly different than zero. In contrast also to the results for a male child, an increase in the wage rate of a female child with a siblings has a negative effect on her time transfers to parents. A 1% increase in the wage rate decreases time transfers by 0.05%. An increase in the wage rate of a female child without a sibling actually has a positive effect on her time transfers to parents. The income effect is small but statistically different than zero. Again, time costs associated with distance from parents appear to influence the amount of financial or time transfers a parent receives.

5. CONCLUSION

¹¹ The positive effect may be suggestive of a strategic bequest motive (Bernheim et al., 1985) although the positive effect of a female child's wage rate on time transfers to parents for those without siblings suggest an alternative explanation (Table 12).

The results of a model of a child's transfers of money and time to parents suggest that adult children respond to their economic situation, including the opportunity cost of time as measured by the wage rate. An increase in an adult child's income and wealth increase transfers to parents while an increase in the wage rate increases financial transfers and decreases time transfers. These results are consistent with the hypothesis that a high wage child substitutes financial transfers for time transfers. The model of a child's transfers of money and time, by sex of child and including a spouse's wage and interactions for whether the adult child has a sibling presents a more complicated picture of the effect of wages on transfers to parents. The results suggest that for a female child, a spouse is a complementary helper and for a male child, a spouse is a substitute helper. The results also suggest that a sibling acts as a substitute for time to parents for female children but not necessarily so for a married, male child. Given that I found that a wife might act as a substitute, this result is not too surprising.

The results in the table show that transfers respond strongly to a parent's need, although the effects were not specifically discussed here. A concern with the estimator as formulated in this paper is that a child's wage rate may be correlated with omitted variables. For example, if the correlation between parent income and child wages is not sufficiently controlled for by the proxy variables, it will bias the effect of wages on transfers. The likely sign of the bias is negative if a parent's income is negatively correlated with financial and time transfers and a parent's income and a child's wages are positively correlated. Future work will utilize econometric techniques and supplemental data to control for this variable and other unobserved variables. Overall, the findings highlight the importance of economic factors in transfers of time and money to elderly parents.

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Table 1
Distribution of transfers to parents

	Percentage
Parents Receiving Only Financial Transfers	9.3
Parents Receiving Only Hours of Care	1.3
Parents Receiving Only Chore Hours	15.8
Parents Receiving Hours of Care and Chores	2.5
Parents Receiving Dollars and Care Hours	0.4
Parents Receiving Dollars and Chore Hours	3.8
Parents Receiving Dollars, Hours of Care and Chores	1.2
Parents Receiving No Transfers	65.7
Total	100.0

Source: HRS 1994, N=3690

Table 2
Parents receiving transfers from respondent child and spouse by type of transfer: percentage and amount conditional on positive transfer

	Percentage	Amount
Parents Receiving Financial Transfers	14.7	1258.83
Parents Receiving Hours of Care	5.4	509.45
Parents Receiving Chore Hours	23.3	287.62

Source: HRS 1994, N=3690.

Table 3
Parents receiving time transfers from child by gender of child

	N	Female	N	Male
Probability Parent Receives Care Hours	2050	0.057 (0.253)	1640	0.039 (0.193)
Probability Parent Receives Chore Hours	2050	0.237 (0.426)	1640	0.198 (0.399)
Amount of Care Hours (hours>0)	118	429.04 (682.54)	64	281.97 (410.11)
Amount of Chore Hours (hours>0)	487	239.51 (418.11)	326	145.67 (225.95)

Standard deviation in parenthesis

Table 4
Characteristics of parents and donor child and spouse by transfer status

	Receive Money N=344	Receive Care N=46	Receive Chores N=584	Receive Care & Chores N=93	Receive Money & Time N=198	No Transfer N=2425	All Parents N=3690
Parent Characteristics							
Age	80.5	83.4	81.8	83.7	81.4	80.2	80.7
Needs help w/ care	0.31	0.72	0.17	0.68	0.42	0.21	0.24
Live w/in 10 mi.	0.22	0.57	0.58	0.48	0.48	0.32	0.37
Not high school grad.	0.59	0.57	0.45	0.57	0.48	0.46	0.48
Highest grade	8.9	9.3	10.7	10.2	10.4	10.3	10.2
Parent financial							
exclt./very good	0.22	0.46	0.66	0.61	0.21	0.58	0.54
good	0.43	0.22	0.26	0.27	0.39	0.27	0.29
fair/poor	0.34	0.33	0.09	0.12	0.40	0.14	0.17
worse than child	0.72	0.52	0.36	0.44	0.74	0.36	0.42
Widow	0.69	0.72	0.70	0.72	0.70	0.56	0.61
Widower	0.15	0.26	0.14	0.25	0.14	0.18	0.17
Child characteristics:							
No. of siblings	3.5	3.5	2.3	2.5	2.7	3.0	2.9
Total household inc.	75150.2	56560.0	65318.9	58302.2	67288.0	76889.8	73659.3
Non-labor income	22370.9	18287.9	21773.9	19027.1	23844.9	31217.2	28034.0
Household earnings	52779.3	38272.0	43545.0	39275.1	43443.0	45672.7	45625.3
Household wealth	296597	189244	364921	275298	374030	263289	290300
Male age	58.1	59.8	58.6	59.3	58.0	57.7	58.0
Female age	53.8	55.1	54.5	55.9	53.6	53.6	53.9
Male highest educ.	12.0	11.7	12.9	12.5	13.0	12.6	12.6
Female highest educ.	11.8	11.5	12.8	12.8	13.0	12.5	12.5
Ln(wage) of male	2.64	2.56	2.67	2.64	2.71	2.63	2.64
Ln(wage) of female	2.22	2.18	2.23	2.21	2.30	2.22	2.22

Source: HRS 1994.

Table 5
Conditional on receiving a transfer, amount received by elderly parent
by respondent child's wage rate quartile

	N	Amount	N	Amount
		Dollars		Hours
Wage Quartile 1	145	1010.2 (1440.5)	178	351.8 (515.5)
Wage Quartile 2	114	1264.8 (1422.6)	155	420.7 (801.7)
Wage Quartile 3	128	989.6 (1268.2)	154	329.4 (439.0)
Wage Quartile 4	153	1730.8 (2913.8)	147	302.7 (411.7)

Source: HRS 1994. Standard deviation in parenthesis.

Table 6
Mean and median time transfers conditional on at least one child transferring resources.

# Siblings	# Giving		Child j	Simulated Totals		
			<i>Means</i>	Means	Medians	Medians
	Hours	%	Hours	Total Hours	Hours	Total Hours
0	1.0	10	399	399	200	200
1	1.1	21	267	294	100	110
2	1.5	22	281	422	100	150
3	2.1	15	270	567	75	158
4	3.0	10	333	999	100	300
5	3.6	8	246	886	50	180
6+	5.9	13	126	743	0	0
Total		100				

Source: HRS 1994. N=1293 .

Table 7
Mean and median financial transfers conditional on at least one child transferring resources.

# Siblings	# Giving		Child j	Simulated Totals		
			<i>Means</i>	<i>Means</i>	Medians	Medians
	Dollars	%	Dollar	Total Dollars	Dollar	Total Dollars
0	1.0	8	1190	1190	1000	1000
1	1.3	16	1575	2048	500	650
2	2.1	18	1486	3121	500	1050
3	2.8	16	1051	2943	300	840
4	3.6	13	1062	3823	375	1350
5	4.3	9	1246	5358	200	860
6+	6.1	20	812	4953	125	763
Total		100				

Source: HRS 1994. Number of observations: 791.

Table 8
Household income of respondent child and spouse by family size.

Family Size: # of Adult Children	N	Household Income	(stderr)	Household Wealth	(stderr)
1	390	105988.25	(34163.07)	369947.45	(33050.53)
2	804	96152.01	(16734.13)	370023.17	(22234.76)
3	767	67510.07	(2365.05)	343038.02	(19472.77)
4	607	63743.23	(2613.50)	255876.82	(18212.34)
5	388	63161.71	(3788.80)	251497.37	(19888.62)
6	247	61692.49	(7134.10)	229940.86	(27017.58)
7+	487	46092.95	(2048.75)	188915.16	(17840.39)

Source: HRS 1994. N=3690.

Table 9
Amount of transfers a parent receives, conditional on receiving,
by labor force participation of child

	N	Hours	N	Dollars
Full-time	321	330.8 (505.4)	255	1330.6 (2211.1)
Part-time	78	364.9 (422.8)	86	1160.7 (1414.)
Not working	235	376.1 (671.8)	201	1170.1 (1640.0)

Source: HRS 1994. Standard deviation in parenthesis.

Table 10
Money and time transfers to parents

	Log (Money to Parents)		Log (Time to Parents)	
	Coef.	Std. Err.	Coef.	Std. Err.
Log wealth	0.077	0.037 **	0.078	0.023 ***
Log non-labor income	0.017	0.021	0.018	0.012
Log wage	0.279	0.148 *	-0.206	0.083 **
Parent characteristics:				
Parent age	-0.014	0.014	0.032	0.008 ***
Widow	0.524	0.216 **	0.546	0.120 ***
Widower	0.025	0.278	0.284	0.151 *
Mrd. Spouse alive (omitted)				
Lives within 10 mi. of kid	-0.473	0.170 ***	0.972	0.092 ***
Not a high school graduate	0.315	0.172 *	-0.122	0.096
Excellent financial status	-3.189	0.231 ***	0.124	0.127
Good financial status	-0.884	0.201 ***	0.092	0.135
Poor financial status (omitted)				
Needs help	0.759	0.186 ***	0.752	0.104 ***
Constant	3.186	1.443 **	-1.296	0.827
Number of observations	3690		3690	
Observed probability $y > 0$	0.15		0.24	
Pred. Prob. $Y > 0$	0.15		0.24	
Chi-Square	365.71	***	285.66	***
e_w (wage elasticity)	0.04		-0.05	
e_l (income elasticity)	0.000		0.004	

Note: regressions also include child characteristics, age, education, number of children, if has a sibling.

* $p < .10$, ** $p < .05$, *** $p < .01$

Table 11
Money and time transfers to parents from male child
(spouse wage rate and existence of a sibling included)

	Log (Money to husband's parents)		Log (Husband time to parents)	
	Coef.	Std. Err.	Coef.	Std. Err.
Log wealth	0.017	0.052	0.026	0.031
Log non-labor income	0.017	0.031	-0.007	0.017
Log wage wife	0.432	0.264 *	0.300	0.142 **
Log wage husband	0.555	0.558	-0.337	0.296
Log wage husband * has sibling	-0.225	0.579	0.636	0.312 **
Husband has a sibling	0.207	1.633	-2.055	0.857 **
Parent characteristics:				
Parent age	-0.022	0.023	0.021	0.012 *
Widow	0.039	0.342	0.042	0.173
Widower	0.030	0.422	-0.149	0.219
Married-spouse alive (omitted)				
Lives within 10 mi. of kid	-0.192	0.256	1.017	0.134 ***
Not a high school graduate	1.033	0.267 ***	-0.041	0.136
Excellent financial status	-2.785	0.343 ***	0.431	0.190 **
Good financial status	-0.620	0.307 **	0.296	0.202
Poor financial status (omitted)				
Needs help	0.495	0.274 *	0.730	0.143 ***
Constant	-1.416	2.744	-0.172	1.440
Number of observations	1640		1640	
Observed probability $y > 0$	0.15		0.21	
Pred. Probability $y > 0$	0.16		0.22	
Chi-Square	157.96		140.12	
e_w (wage elasticity – no sibling)	0.09		-0.07	
e_w (wage elasticity – has sibling)	0.05		0.07	
e_w (wage elasticity – spouse)	0.07		0.07	
e_i (income elasticity)	0.00		0.002	

Note: regressions also include child characteristics, age, education, number of children, if has a sibling.

* $p < .10$, ** $p < .05$, *** $p < .01$

Table 12
Money and time transfers to parents from female child
(spouse wage rate and existence of a sibling included)

	Log (Money to wife's parents)		Log (Wife time to parents)		T
	Coef.	Std. Err.	Coef.	Std. Err.	
Log wealth	0.091	0.052 *	0.080	0.033 **	
Log non-labor income	0.023	0.028	0.040	0.016 **	
Log wage wife	0.124	0.723	0.584	0.383	
Log wage husband	0.412	0.273	-0.070	0.144	
Log wage wife * has sibling	0.027	0.730	-0.753	0.387 **	
Wife has a sibling	-0.315	1.702	1.114	0.915	
Parent characteristics:					
Parent age	-0.014	0.020	0.058	0.012 ***	
Widow	0.833	0.285 ***	0.940	0.163 ***	
Widower	-0.131	0.375	0.579	0.200 ***	
Married-spouse alive (omitted)					
Lives within 10 mi. of kid	-0.664	0.227 ***	0.896	0.122 ***	
Not a high school graduate	-0.253	0.232	-0.091	0.130	
Excellent financial status	-3.555	0.314 ***	-0.089	0.167	
Good financial status	-1.129	0.263 ***	-0.028	0.176	
Poor financial status (omitted)					
Needs help	1.086	0.253 ***	0.734	0.142 ***	
Constant	4.734	2.646 *	-3.842	1.485 **	
Number of observations	2050		2050		
Observed probability $y > 0$	0.14		0.26		
Pred. probability $y > 0$	0.15		0.28		
Chi-Square	264.41		217.11		
e_w (wage elasticity - no sibling)	0.02		0.16		
e_w (wage elasticity - has sibling)	0.02		-0.05		
e_w (wage elasticity - spouse)	0.06		-0.02		
e_i (income elasticity)	0.003		0.011		

Note: regressions also include child characteristics, age, education, number of children, if has a sibling.

* $p < .10$, ** $p < .05$, *** $p < .01$